

EM-RFO--KHLL-NONPUOPS1-2002-0007 FINAL

Non-Plutonium Operations Area I
(Name of Facility)

Balance-of-Plant
(Facility Function)

Rocky Flats Env. Technology Site Kaiser-Hill Company, L.L.C.
(Site) (Contractor)

Name: Jerry Anderson
Title: Facility Manager **Telephone No.:** (303) 966-6438
(Facility Manager/Designee)

Name: POPPELL, FRANK S
Title: RISS ESH AND Q OSE **Telephone No.:** (303) 966-6209
(Originator/Transmitter)

Name: S.L. Cunningham **Date:** 12/09/2002
(Authorized Classifier (AC))

1. Occurrence Report Number: EM-RFO--KHLL-NONPUOPS1-2002-0007

Load Slipped Out of Rigging During Lift

2. Report Type and Date: FINAL

| | Date | Time |
|------------------------|-------------|-------------|
| Notification: | 11/05/2002 | 16:28 (ETZ) |
| Initial Update: | 12/11/2002 | 11:07 (ETZ) |
| Latest Update: | 12/11/2002 | 11:07 (ETZ) |
| Final: | 12/19/2002 | 14:43 (ETZ) |

3. Occurrence Category: Off-Normal

4. Number of Occurrences: 1 **Original OR:**

5. Division or Project: Kaiser-Hill Company, L.L.C.

6. Secretarial Office: EM - Environmental Management

7. System, Bldg., or Equipment: Building 865

8. UCNI?: No

9. Plant Area: RISS

10. Date and Time Discovered: 11/04/2002 15:00 (MTZ)

11. Date and Time Categorized: 11/04/2002 16:30 (MTZ)

12. DOE HQ OC Notification:

| Date | Time | Person Notified | Organization |
|------|------|-----------------|--------------|
| NA | NA | NA | NA |

13. Other Notifications:

| Date | Time | Person Notified | Organization |
|------------|-------------|-----------------|--------------|
| 11/04/2002 | 15:05 (MTZ) | Deanna McCranie | DOE/RFFO |

14. Subject or Title of Occurrence:

Load Slipped Out of Rigging During Lift

15. Nature of Occurrence:

10) Cross-Category Items
C. Potential Concerns/Issues

16. Description of Occurrence:

On November 4, 2002, the upper portion of a jib crane slipped out of the rigging and fell approximately 4 feet to the floor. The jib crane was being disassembled and a choker rigging was being used to remove and lower the jib crane head from the top of its supporting column. Although the crew was using a tag line to hold the piece upright during the lift, the tag line could not control the piece as it was lowered to approximately 4 feet allowing the piece to flip over and, because of its odd shape being wider at the top than the bottom, it slipped out of the rigging. There were no injuries and no equipment was damaged.

17. Operating Conditions of Facility at Time of Occurrence:

Not Applicable

18. Activity Category:

11 - Facility Decontamination/Decommissioning

19. Immediate Actions Taken and Results:

Lifting activities in Building 865 were paused and the work crew was brought out of the area to attend a post task briefing. A fact finding was scheduled.

20. Direct Cause:

- 3) Personnel Error
- A. Inattention to Detail

21. Contributing Cause(s):

22. Root Cause:

- 3) Personnel Error
- A. Inattention to Detail

23. Description of Cause:

The direct and root cause of this event was determined to be the crew's inattention to the specific details of the task such that the crew misjudged the rigging configuration thus allowing the load to invert and drop from its rigging. The crew recognized the load was top heavy; however, they attached the sling to the jib crane head using a choker arrangement and placed it below the head's center of gravity which had not been identified by the Lift Supervisor. When Kaiser-Hill oversight personnel stopped the job and questioned the rigging, the Lift Supervisor and crew failed to recognize the potential for losing control of the load as it was lowered and the tag line was no longer able to act as a counterweight and maintain the piece in an upright position. Using the tag line in this manner was inappropriate.

24. Evaluation (by Facility Manager/Designee):

This occurrence did not have any adverse affects on other site or any Building 865 safety systems. Upon the discovery of this event, the Building 865 D&D subcontractor appropriately responded by initiating a safety pause to review the event with the entire crew and implement corrective actions to prevent reoccurrence. No workers were within 8 feet of where the jib crane head hit the floor. After this event, the rigging Subject Matter Expert assigned to the building recommended that future lifts of this nature be performed by removing the entire jib crane head and monorail assembly off the support column, instead of cutting off the monorail as was done in this event. This would allow removal of the assembly with a forklift, eliminate the need for rigging, and would not require two separate lifts.

25. Is Further Evaluation Required?: No

26. Corrective Actions (* = Date added/revised since final report was approved.)

1. ECC will brief the B865 project to use more a conservative decision making process.

Responsibility: Keith Pushaw

Target Completion Date: 11/05/2002 **Completion Date:** 11/05/2002

2. Evaluate the lifting task plans and Ordinary lift checklist for adequacy and revision.

Responsibility: Keith Pushaw

Target Completion Date: 11/11/2002 **Completion Date:** 11/11/2002

3. Clarify the use of tag lines in RFETS Procedures.

Responsibility: Luke Williams

Target Completion Date: *02/20/2004 **Completion Date:** 02/19/2004

4. Evaluate this incident on a Sitewide basis to determine if more comprehensive corrective actions are required. KH has directed that all non-critical lifts greater than 100 lbs. be personally approved by project management or until the project formally identifies "designated lift supervisors".

Responsibility: Luke Williams

Target Completion Date: 11/11/2002 **Completion Date:** 11/11/2002

5. Verify the weight calculations used for this lift were correct.

Responsibility: Matt Dessi

Target Completion Date: 11/05/2002 **Completion Date:** 11/05/2002

27. Impact on Environment, Safety and Health:

There is no impact on the health and safety of the workers, the public, the environment, quality or security as a result of this occurrence.

28. Programmatic Impact:

There is no programmatic impact on the plant as a result of this occurrence.

29. Impact on Codes and Standards:

There is no impact to codes and standards as a result of this occurrence.

30. Lessons Learned:

Hoisting and rigging operations that require exceptional care in handling, because of contents, size, weight, center of gravity, close-tolerance installation, high susceptibility to damage, or other unusual factors are considered critical lifts.

Prior to conducting the lift, adequate safety measures must be met, including the completion of the subcontractor's Critical Lift Plan. It is essential that all aspects of the lift are reviewed so that the unexpected can be addressed. During critical lifting operations safety needs to be the number one priority. Hoisting and rigging operations should always be approached with extreme caution and when the unexpected happens, work must stop and job steps re-evaluated. The following basic tips for safe hoisting and rigging operations were identified as a result of this event. (1) Know the weight of the object and the capacity of the lifting device and rigging. (2) Make sure you know where the center of gravity is and rig above it. (3) Tag lines are only used to keep the load from swaying or moving excessively during the lift, not to secure the load or act as a counterweight. (4) Make sure the lifting equipment meets all the requirements of your lifting operation. (5) Make sure no one is under the object being lifted. (6) Be aware of any potential obstructions that could interfere with your lift.

31. Similar Occurrence Report Numbers:

RFO--KHLL-771OPS-2000-0037 RFO--KHLL-D&DOPS-2002-0001 RFO--KHLL-ENVOPS-2002-0001 RFO--KHLL-NONPUOPS1-2002-0003 RFO--KHLL-PUFAB-2002-0058 RFO--KHLL-WSTMGTOPS-2002-0026

32. User-defined Field #1:

020468 ISM=GP3-CF4

33. User-defined Field #2:

34. HQ Keyword(s):

08I--OSHA/Industrial Hygiene Issues - Industrial Operation Procedures (Start Feb 99) 08N--OSHA/Industrial Hygiene Issues - Near Miss Other (Start Feb 99) 12K--EH Categories - Near Miss (Could have been a serious injury or fatality)

35. HQ Summary:

36. DOE Facility Representative Input:

37. DOE Program Manager Input:

38. Approvals:

Approved by: Jerry Anderson, Facility Manager/Designee
Date: 12/11/2002
Telephone No.: (303) 966-6438

Approved by: MCCRANIE, DEANNA C, Facility
Representative/Designee
Date: 12/19/2002
Telephone No.:

Approved by: Approval delegated to FR, Program
Manager/Designee
Date: 12/19/2002
Telephone No.: